

REMARKS

Claims 1-41 are pending in the present application. By this Amendment, claim 42 has been added.

OBJECTIONS TO SPECIFICATION

The specification has been objected to for containing informalities in paragraphs [0003], [0004], and [0025]. These paragraphs have been amended to adopt the Examiner's suggestions. In view of the above amendments, Applicants believe the objections to the specification are moot, and thus, respectfully request withdrawal of these objections.

DRAWING OBJECTIONS

The drawings have been objected to for various reasons. Particularly, Figure 6 has been objected to for a minor informality. Applicants have amended Figure 6 so that the step of "Process Analog Data" is boxed in the same manner as the other steps. The Examiners also objected to the drawings for not showing some of the claimed elements of claim 14: comparison unit, first evaluation unit, and second evaluation unit. Figure 3 has been amended to include such missing elements. To comply with 37 C.F.R. § 1.84, Annotated Marked-up Drawings and Replacement Sheets of Figures 3 and 6 are enclosed herewith. In view of these amendments to the drawings, Applicants respectfully request withdrawal of these drawing objections.

REJECTIONS UNDER 35 U.S.C. § 112

Claims 8-13, 24-27, and 41 are rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. This rejection is respectfully traversed.

While the Examiner alleges that the written description requirement is not met, the Examiner contends that claims 8-13 are not enabled because these claims depend from claim 1. The Examiner believes that they should depend from claim 7. Further, the Examiner also contends that claims 24-27 are not enabled because they do not depend from a claim reciting a differential oscilloscope. Preliminarily, it is unclear whether the Examiner is basing these rejections on the written description requirement or the enablement requirement. Regardless, it is the specification that has to satisfy both the written description and enablement requirements of § 112, first paragraph, not the claims themselves. See MPEP § 2106(V). The specification of the present application discloses that a tester interface unit 16 is coupled to a differential monitoring device such as a differential oscilloscope 24. See p. 6 of the present application. In other words, a differential oscilloscope is only one of many examples of a differential monitoring device that is capable of determining the rise time and the fall time of a signal in the response of the electronic device (claim 8) and monitoring an eye diagram (claim 10). Thus, the claimed element, “a differential monitoring device,” of claim 1 provides sufficient support to enable claim 8 and 10, as well as claims 9 and 11-13, which depend respectively therefrom. For the same reason, claims 24-27 have been enabled because the claimed element “a differential monitoring device” of claim 18 provides sufficient

support. If claims 1 and 18 are enabled, the claimed features of claims 8-13 and 24-27 should be, too. Accordingly, Applicants respectfully request reconsideration and withdrawal of these improper § 112, first paragraph, rejections.

Claim 41 stands rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. In view of the Examiner's remarks, Applicants have amended claim 41, so that it depends from independent claim 37. Accordingly, Applicants believe that the § 112, second paragraph, rejection is rendered moot. Reconsideration and withdrawal of the § 112, second paragraph, rejection is respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 1-4, 14-17, and 18-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,909,186 to Gohringer ("Gohringer"). This rejection is respectfully traversed.

Independent claims 1 and 18 recite a method for testing an electronic device, which comprises:

- monitoring the response of the electronic device on a differential monitoring device to obtain analog data; and
- monitoring the response of the electronic device on a tester receiver to obtain digital data;
- processing the analog signal; and
- processing the digital signal.

Independent claim 14 recites an apparatus for testing an electronic device, which comprises:

- a differential monitoring device . . . to obtain analog data; and

a tester receiver . . . to obtain digital data;
a processing unit for processing the analog signal and the digital
signal.

Gohringer does not disclose, teach, or suggest these claimed features. Gohringer discloses a digital tester interface that performs analog-to-digital and digital-to-analog conversions between the digital tester and the mixed-signal device under test.

Gohringer's digital tester, however, deals "exclusively" with digital signals when testing a mixed signal device. See col. 7, lines 23-26; col. 8, lines 8-12; col. 12, lines 50-55.

Nowhere in Gohringer is it suggested that the analog data and the digital data are obtained by monitoring the response of the electronic device on two separate devices, namely the differential monitoring device and the tester receiver. Moreover, Gohringer also fails to disclose, teach, or suggest processing the analog signal. Rather, Gohringer tests performance characteristics based solely on digital signals.

Because these features of the claimed invention are not disclosed in, nor taught by, the Gohringer reference, reconsideration and withdrawal of the rejection of claims 1-4, 14-17, and 18-21 under 35 U.S.C. § 102^b(e) is respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 28-31, 33, 34, 36, and 37-40 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,951,704 to Sauer et al. ("Sauer") in view of Andrew Grochowski et al., *Integrated Circuit Testing for Quality Assurance in Manufacturing: History, Current Status, and Digital Signal Processing*, Vol. 44, No. 8, August 1997 ("Grochowski"). Claim 7 stands rejected under 35 U.S.C. § 103(a) as being obvious over

Gohringer in view of G. Cauffet et al., *Digital Oscilloscope Measurements in High Frequency Power Electronics*, IEEE, reference 0-7803-0640-6/92, pages 445-447 (1992) ("Cauffet"). Claims 32 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sauer in view of Cauffet. Claims 5, 6, 22, and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gohringer in view of Sauer. These rejections are respectfully traversed.

Sauer discloses emulator software for testing a semiconductor device by comparing the actual data acquired using a testing signal and the expected data. Nowhere in Sauer is it disclosed, taught, or suggested that this emulator software deals with both the analog data and the digital data. As such, Sauer cannot and does not disclose, teach, or suggest either a testing device that monitors the response of the electronic device on two separate devices to obtain the analog data and digital data, or a testing device that processes both the analog signal and the digital signal. For at least this reason, Sauer, either alone or in combination with Gohringer, fails to render claims 5, 6, 22, and 23 obvious.

29
37
31
Grochowski discloses an integrated circuit testing for quality assurance in manufacturing. Particularly, Grochowski mentions a method for testing an analog signal that converts the analog signal to a digital representation using a standard continuous to discrete transformation so that the converted digital signal can be monitored by the testing device. See Grochowski, p. 628. Grochowski, however, fails to disclose, teach, or suggest a testing device that tests both the analog signal and the digital signal as they are. Grochowski, thus, also fails to disclose, teach, or suggest obtaining both the analog data and the digital data by monitoring the response of the electronic device on two

separate devices. Thus, Grochowski, either alone or in combination with Sauer, fails to render independent claims 28, 33, and 37 obvious. Accordingly, dependent claims 29-31, 34, 36, and 38-40 are not rendered obvious over Grochowski in view of Sauer.

Cauffet discloses a digital oscilloscope intended to be used for high frequency power electronic investigation. Cauffet, however, fails to disclose, teach, or suggest a testing device that tests both the analog signal and the digital signal at the same time. Cauffet, thus, also fails to disclose, teach, or suggest obtaining both the analog data and the digital data by monitoring the response of the electronic device on two separate devices. For at least these reasons, Cauffet, either alone or in combination with Gohringer, fails to render claim 7, which depends from independent claim 1, obvious. For the same reasons, Cauffet, either alone or in combination with Sauer, cannot render obvious claims 32 and 35, which depend from independent claim 33.

Since features of the present invention are not disclosed in, nor taught by, the cited references or any suggested combinations thereof, reconsideration and withdrawal of various rejections of claims 5-7, 22-23, 28-40 under 35 U.S.C. § 103 (a) is respectfully requested.

New Claim 42

Claim 42 has been added to further clarify the patentable subject matter of the present invention. New claim 42 is patentable for the same reasons as set forth above.

CONCLUSION

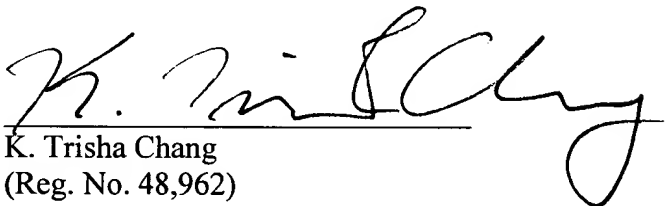
Applicants respectfully submit that the present case is in condition for allowance and respectfully requests that the Examiner issue a notice of allowance.

The Office is hereby authorized to charge any fees determined to be necessary under 37 C.F.R. § 1.16 or § 1.17 or credit any overpayment to Kenyon & Kenyon **Deposit Account No. 11-0600.**

The Examiner is invited to contact the undersigned at (202) 220-4255 to discuss any matter concerning this application.

Respectfully submitted,

Dated: October 24, 2003


K. Trisha Chang
(Reg. No. 48,962)

Enclosures:

Annotated Marked-up Figures 3 and 6 (2 pages)
Replacement Figures 3 and 6 (2 pages)

KENYON & KENYON
1500 K Street, N.W.
Suite 700
Washington, D.C. 20005
Tel: (202) 220-4200
Fax: (202) 220-4201
DC01 465738_1.DOC

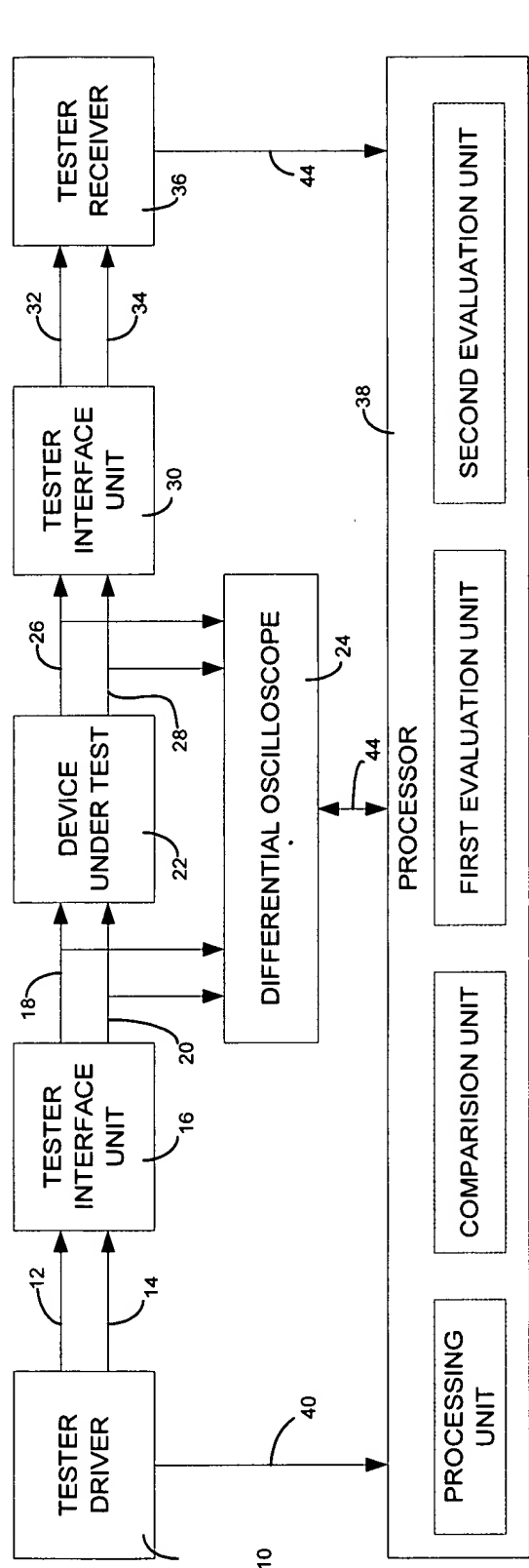


FIG. 3

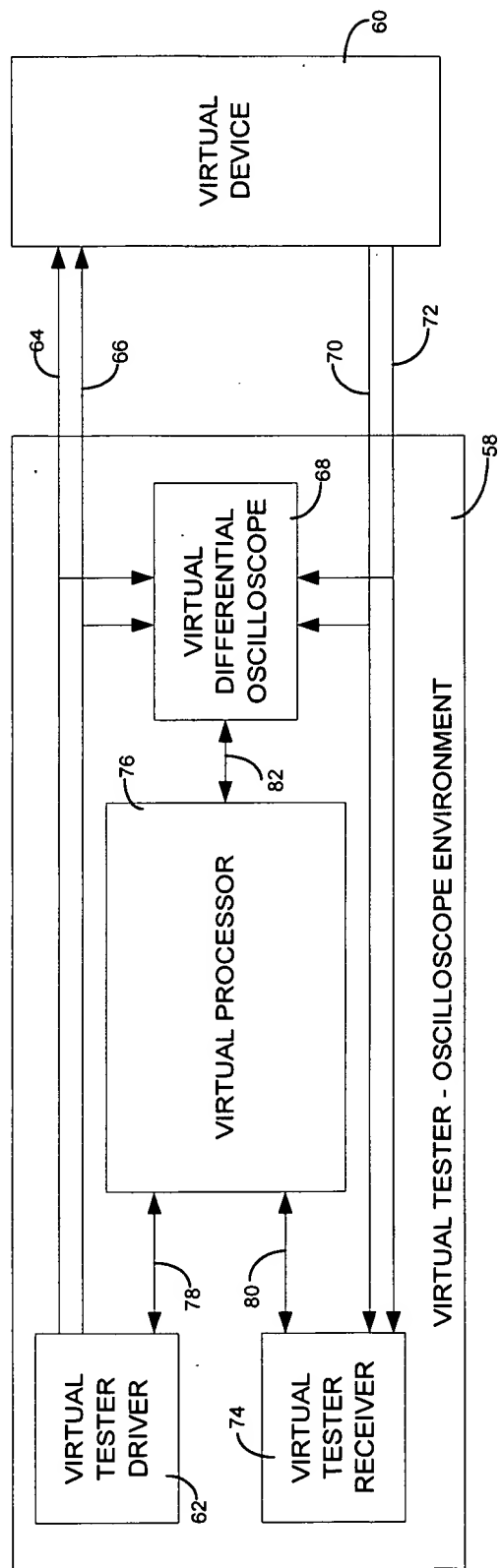


FIG. 5

